Name_____
Mrs. Roumbos

Date_____
8R Period_____

#80

Reflection Review Examples

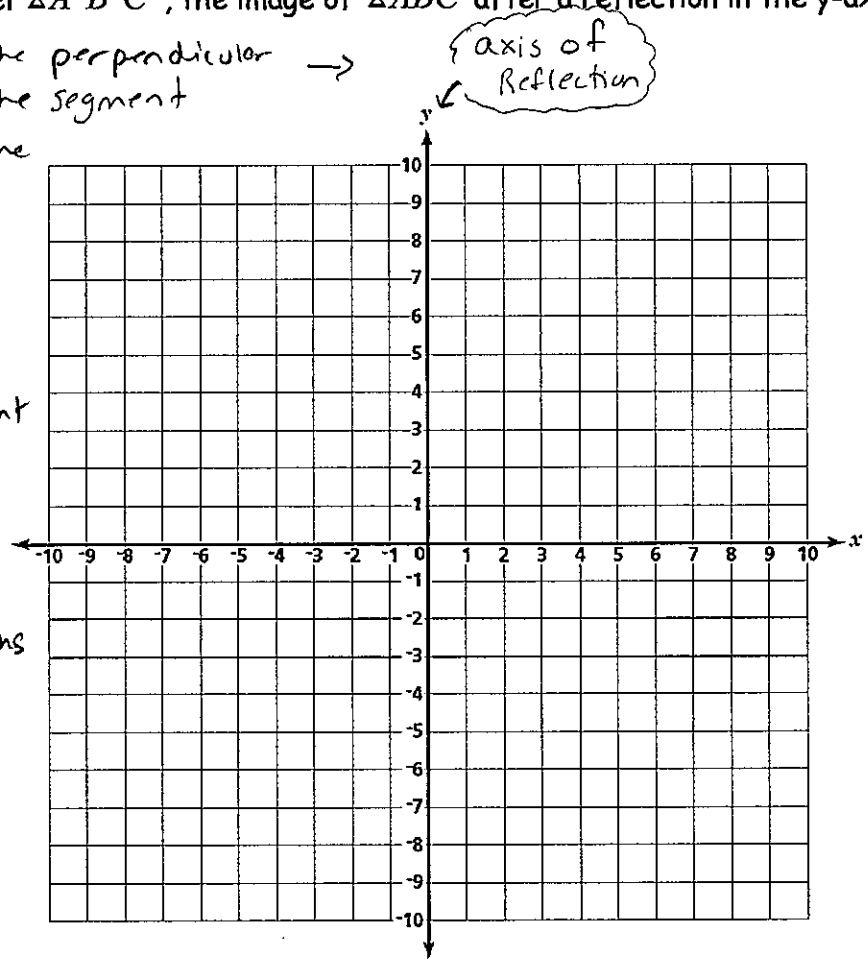
1) Point A(6,3) is reflected in the x-axis. Find the coordinates of A', its image.	2) What are the coordinates of A', the image of point A(-5,1) after a reflections in the y-axis?
3) What is the image of the point (-3,2) when it is reflected in the origin?	4) What are the coordinates of N', the image of N(5,-3) under a reflection in the origin?

5) Triangle ABC has coordinates A(-1,3), B(-6, 5), and C(-4,7).

(a) Sketch and label $\triangle ABC$.

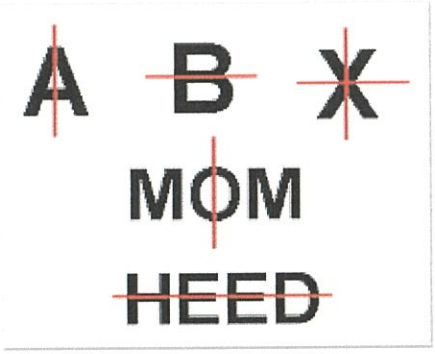
(b) Graph and label $\triangle A'B'C'$, the image of $\triangle ABC$ after a reflection in the y-axis.

This line is the perpendicular bisector of the segment that connects the original points to their corresponding image point. It creates right angles & it divides the segment into 2 equal sections

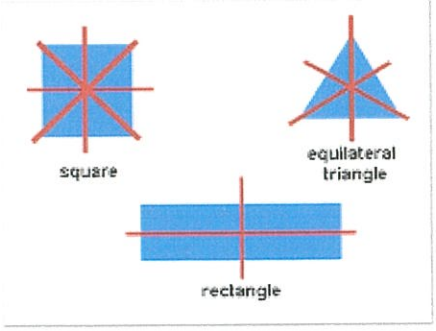


3) Mosaics and art work often demonstrate the concept of reflections and line symmetry. This drawing has **two lines of symmetry**, as shown by the white lines.

4) Certain letters of the alphabet and words possess **line symmetry** (such as the samples in the photo). Notice that some possess vertical line symmetry, some possess horizontal line symmetry, and some possess BOTH vertical and horizontal line symmetry.



5) Certain geometric figures possess **line symmetry.** The figures in the photo are only a sampling of the geometric figures that possess symmetry.



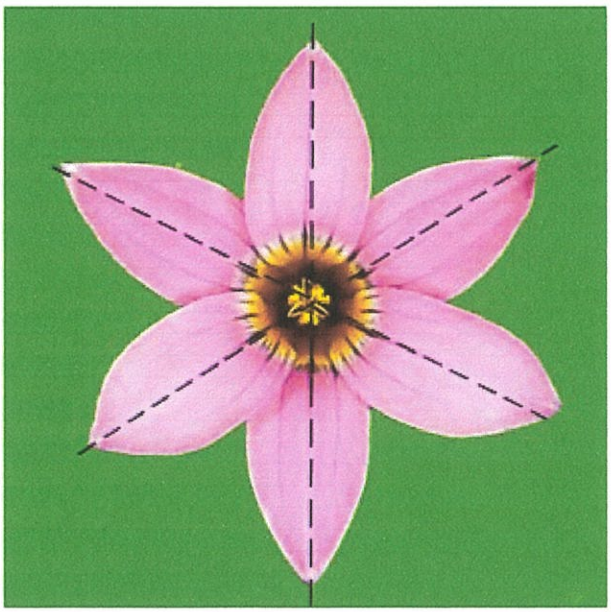
LINE SYMMETRY

Line symmetry, or just symmetry, occurs when two halves of a figure mirror each other across a line. The **line of symmetry** is the line that divides the figure into two mirror images. A simple test to determine if a figure has line symmetry is to fold the figure along the supposed line of symmetry and see if the two halves of the figure coincide. A figure has line symmetry if the figure can be mapped onto itself by a reflection in the line.

Examples:

1) Nature displays **line symmetry** in some of its most beautiful work. The balanced arrangement of symmetry creates pleasing and attractive forms. The white line is the line of symmetry on the butterfly.

2) Many flowers possess **line symmetry**. The biologist's term for line symmetry is "bilateral symmetry". The black lines are the lines of symmetry.



Name: _____ Date: _____

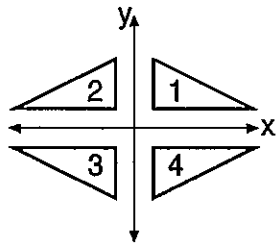
REFLECTION / SYMMETRY WORKSHEET

1) Which letter has *both* vertical and horizontal line symmetry?

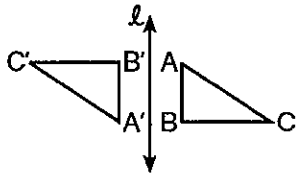
A) E C) M

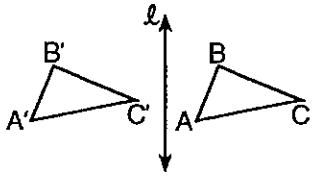
B) T D) X

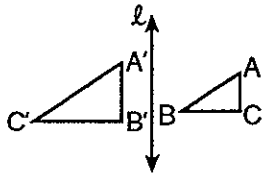
2) In the accompanying diagram, what triangle is the image of $\triangle 2$ after a reflection in the x-axis?

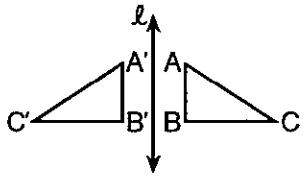


3) Which one of the following diagrams represents a reflection in line ℓ?

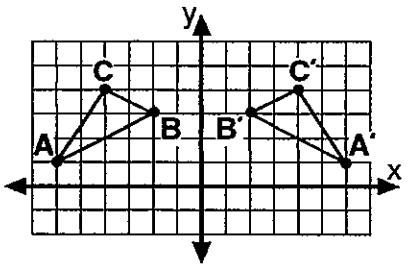
A)


B)


C)


D)


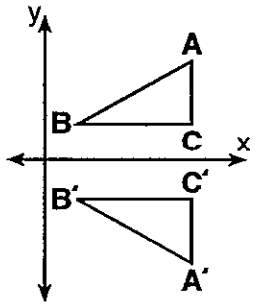
4) In the accompanying diagram, $\triangle A'B'C'$ is the image of $\triangle ABC$.



What type of transformation is shown in the illustration?

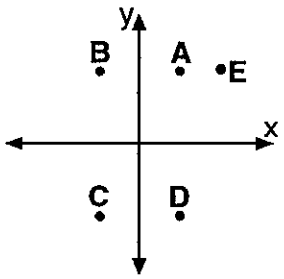
A) line reflection
B) translation
C) rotation
D) dilation

5) In the accompanying diagram, what type of transformation makes $\triangle A'B'C'$ the image of $\triangle ABC$?



A) translation
B) reflection in the x-axis
C) rotation centered at the origin
D) dilation

6) In the accompanying diagram, what point may be the image of point A after a line reflection in the x-axis?

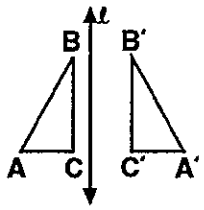


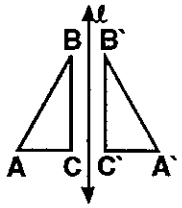
A) D
B) C
C) B
D) E

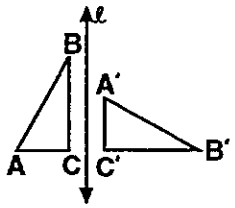
7) Which kind of symmetry does the word TOOT have?

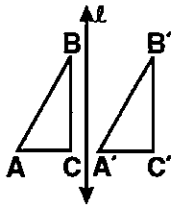
A) vertical line symmetry, only
B) both vertical and horizontal line symmetry
C) horizontal line symmetry, only
D) neither horizontal nor vertical line symmetry

8) In which one of the following figures is $\triangle A'B'C'$ a reflection of $\triangle ABC$ in line ℓ?

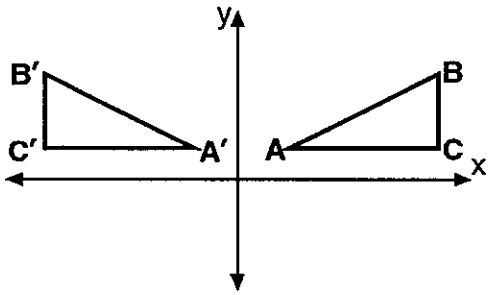
A) 

B) 

C) 

D) 

9) In the accompanying diagram, $\triangle A'B'C'$ is the image of $\triangle ABC$.

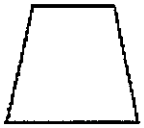


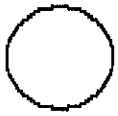
What type of transformation is shown?

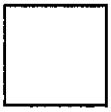
A) translation
B) dilation
C) rotation
D) reflection

10) Which figure does *not* have line symmetry?

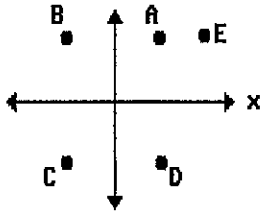
A) 

B) 

C) 

D) 

11) In the accompanying diagram, which point may be the image of point B after a line reflection in the x-axis?



A) E
B) D
C) C
D) B